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1-sst	16

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IBM Technical Disclosure Bulletins

Search:

L3

Search History

DATE: Wednesday, April 28, 2004 [Printable Copy](#) [Create Case](#)

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<i>side by side</i>			
DB=USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=OR			
<u>L3</u>	1-sst	16	<u>L3</u>
<u>L2</u>	1-fructosyl adj transferase	1	<u>L2</u>
<u>L1</u>	1-fructosyltransferase	9	<u>L1</u>

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NEWS 4 JAN 27 A new search aid, the Company Name Thesaurus, available in CA/CAplus
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		ENTRY	SESSION
FULL ESTIMATED COST		0.06	0.27

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=>  
=> s 1-fructosyl  
L1          70 1-FRUCTOSYL  
  
=> duplicate remove l1  
DUPLICATE PREFERENCE IS 'AGRICOLA, BIOSIS, EMBASE, CAPLUS'  
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n  
PROCESSING COMPLETED FOR L1  
L2          44 DUPLICATE REMOVE L1 (26 DUPLICATES REMOVED)
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=> s 12 and plant
L3 25 L2 AND PLANT

=> d 13 1-25 ti

L3 ANSWER 1 OF 25 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN

TI Inulin and oligofructose as dietary fiber: a review of the evidence.

L3 ANSWER 2 OF 25 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN

TI Sucrose assimilation during early developmental stages of chicory (*Cichorium intybus* L.) ***plants*** .

L3 ANSWER 3 OF 25 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN

TI Cloning, developmental, and tissue-specific expression of sucrose:sucrose ***1*** - ***fructosyl*** transferase from *Taraxacum officinale*. Fructan localization in roots.

L3 ANSWER 4 OF 25 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN

TI De-novo synthesis of fructans from sucrose *in vitro* by a combination of two purified enzymes (sucrose: sucrose ***1*** - ***fructosyl*** transferase and fructan: fructan ***1*** - ***fructosyl*** transferase) from chicory roots (*Cichorium intybus* L.).

L3 ANSWER 5 OF 25 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN

TI Purification and characterization of wheat beta (2 leads to 1) fructan:fructan fructosyl transferase activity.

L3 ANSWER 6 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

TI Fructosyl transferase and hydrolase activities in rhizophores and tuberous roots upon growth of *Polymnia sonchifolia* (Asteraceae).

L3 ANSWER 7 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

TI Development of a flow-injection analysis (FIA) enzyme sensor for fructosyl amine monitoring.

L3 ANSWER 8 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

TI Determination of total N-nitroso compounds and their precursors in frankfurters, fresh meat, dried salted fish, sauces, tobacco, and tobacco smoke particulates.

L3 ANSWER 9 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

TI Effect of defoliation on fructan pattern and fructan metabolizing enzymes in young chicory ***plants*** (*Cichorium intybus*).

L3 ANSWER 10 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Effect of nitrogen concentration on fructan and fructan metabolizing enzymes in young chicory ***plants*** (*Cichorium intybus*).

L3 ANSWER 11 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Characterization of fructan oligomers from species of the genus *Allium* L.

L3 ANSWER 12 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Effects of short-term phosphorus deficiency on carbohydrate storage in sink and source leaves of barley (*Hordeum vulgare*).

L3 ANSWER 13 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Purification and substrate specificity of an extracellular fructan hydrolase from *Lactobacillus paracasei* ssp. *paracasei* P 4134.

L3 ANSWER 14 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Seasonal variation of fructan-beta-fructosidase (FEH) activity and characterization of a beta-(2-1)-linkage specific FEH from tubers of Jerusalem artichoke ((*Helianthus tuberosus*)).

L3 ANSWER 15 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Purification and characterization of 1-SST, the key enzyme initiating fructan biosynthesis in young chicory roots (*Cichorium intybus*).

L3 ANSWER 16 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI REGULATION OF FRUCTAN BIOSYNTHESIS IN LEAVES OF CRESTED WHEATGRASS.

L3 ANSWER 17 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI RISE IN INULIN SENSITIVE B CELLS DURING ONTOGENY CAN BE PREMATURELY STIMULATED BY THYMUS DEPENDENT AND THYMUS INDEPENDENT ANTIGENS.

L3 ANSWER 18 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI PURIFICATION AND CHARACTERIZATION OF SUCROSE SUCROSE ***1*** ***FRUCTOSYL*** TRANSFERASE FROM THE ROOTS OF ASPARAGUS OFFICINALIS.

L3 ANSWER 19 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI SUCROSE SUCROSE ***1*** ***FRUCTOSYL*** TRANSFERASE ACTIVITY AND DORMANCY OF IN-VITRO GROWN JERUSALEM-ARTICHOKE TUBERS.

L3 ANSWER 20 OF 25 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI ENZYMOLOGICAL ASPECTS OF DE-NOVO SYNTHESIS OF FRUCTO OLIGO SACCHARIDES IN LEAF DISCS OF CERTAIN ASTERACEAE PART 4 THE ACTIVITY OF SUCROSE SUCROSE ***1*** ***FRUCTOSYL*** TRANSFERASE.

L3 ANSWER 21 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN
TI Induction of 1-FEH in mature chicory roots appears to be related to low temperatures rather than to leaf damage

L3 ANSWER 22 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN
TI Cloning of a vacuolar invertase from Belgian endive leaves (*Cichorium intybus*)

L3 ANSWER 23 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

TI Fructo-oligosaccharides and other fructans: structures and occurrences, production, regulatory aspects, food applications and nutritional health significance

L3 ANSWER 24 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

TI Effect of osmolytes on the fructan pattern in feeder roots produced during forcing of chicory (*Cichorium intybus*)

L3 ANSWER 25 OF 25 CAPLUS COPYRIGHT 2004 ACS on STN

TI The metabolism of fructose polymers in ***plants***
Transfructosylation in tubers of *Helianthus tuberosus*

=> s 11 and parthenium
L4 0 L1 AND PARTHENIUM

=> s 11 and helianthus
L5 11 L1 AND HELIANTHUS

=> s 12 and helianthus
L6 7 L2 AND HELIANTHUS

=> d 16 1-7

L6 ANSWER 1 OF 7 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved.

(2004) on STN

AN 75:55298 AGRICOLA

DN 75-9056215

TI Sucrose-sucrose ***1*** - ***fructosyl*** transferase activity and dormancy of in vitro grown Jerusalem artichoke tubers
Activite saccharose-saccharose ***1*** - ***fructosyl*** transferase dans des tubercules de topinambour (****Helianthus**** *tuberosus* L.)
cultives in vitro, en fonction de leur etat de dormance

AU Teppaz-Misson, C

AV DNAL (505 P21 (3))

SO C R Hebd Seances Acad Sci, Ser D Sci Nat, Apr 7, 1975 Vol. 280, No. 13,
pp. 1567-1570. Eng. Sum.

DT Journal; Article

LA French

L6 ANSWER 2 OF 7 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

AN 2003:66979 BIOSIS

DN PREV200300066979

TI Fructosyl transferase and hydrolase activities in rhizophores and tuberous roots upon growth of *Polymnia sonchifolia* (Asteraceae).

AU Itaya, Nair Massumi; Machado de Carvalho, Maria Angela;
Figueiredo-Ribeiro, Rita de Cassia Leone [Reprint Author]

CS Secao de Fisiologia e Bioquimica de Plantas, Instituto de Botanica de Sao Paulo, Caixa Postal 4005, CEP 01061-970, Sao Paulo, SP, Brazil
ritarib@usp.br

SO Physiologia Plantarum, (December 2002) Vol. 116, No. 4, pp. 451-459.
print.

ISSN: 0031-9317 (ISSN print).

DT Article

LA English

ED Entered STN: 29 Jan 2003
Last Updated on STN: 29 Jan 2003

L6 ANSWER 3 OF 7 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1997:217250 BIOSIS
DN PREV199799523754
TI Seasonal variation of fructan-beta-fructosidase (FEH) activity and characterization of a beta-(2-1)-linkage specific FEH from tubers of Jerusalem artichoke ((***Helianthus*** tuberosus).
AU Marx, Stefan P.; Nosberger, Josef; Frehner, Marco [Reprint author]
CS Inst. Plant Science, Swiss Federal Inst. Technology, ETH-Zentrum, CH-8092 Zurich, Switzerland
SO New Phytologist, (1997) Vol. 135, No. 2, pp. 267-277.
CODEN: NEPHAV. ISSN: 0028-646X.
DT Article
LA English
ED Entered STN: 22 May 1997
Last Updated on STN: 9 Jul 1997

L6 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1992:528170 CAPLUS
DN 117:128170
TI Fructooligosaccharides in the tubers of Jerusalem artichoke and Yacon
AU Wei, Baoyao; Hara, Masahiro; Yamauchi, Ryo; Ueno, Yoshimitsu; Kato, Koji
CS Fac. Agric., Gifu Univ., Gifu, 501-11, Japan
SO Gifu Daigaku Nogakubu Kenkyu Hokoku (1991), 56, 133-8
CODEN: GNKEAH; ISSN: 0072-4513
DT Journal
LA Japanese

L6 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1966:53315 CAPLUS
DN 64:53315
OREF 64:10005c-d
TI The metabolism of fructose polymers in plants Transfructosylation in tubers of ***Helianthus*** tuberosus
AU Edelman, J.; Dickerson, A. G.
CS Imp. Coll. Sci. Technol., London
SO Biochemical Journal (1966), 98(3), 787-94
CODEN: BIJOAK; ISSN: 0264-6021
DT Journal
LA English

L6 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1964:46826 CAPLUS
DN 60:46826
OREF 60:8279e-g
TI Characteristics of an invertase-free .beta.-fructofuranosidase from ***Helianthus*** tuberosus
AU Edelman, J.; Jefford, T. G.
CS Imp. Coll. Sci. Technol., London
SO Biochemical Journal (1963), 88(2), 36P-37P
CODEN: BIJOAK; ISSN: 0264-6021
DT Journal
LA Unavailable

L6 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1964:46825 CAPLUS
DN 60:46825
OREF 60:8279d-e
TI Characteristics of a transfructosylase isolated from tubers of
 Helianthus tuberosus
AU Edelman, J.; Dickerson, A. G.
CS Imp. Coll. Sci. Technol., London
SO Biochemical Journal (1963), 88(2), 35P-36P
 CODEN: BIJOAK; ISSN: 0264-6021
DT Journal
LA Unavailable

=> s 11 and 12
L7 44 L1 AND L2

=> s 1-fructosyltransferase and plant
L8 62 1-FRUCTOSYLYLTRANSFERASE AND PLANT

=> duplicate remove 18
DUPLICATE PREFERENCE IS 'AGRICOLA, BIOSIS, EMBASE, CAPLUS'
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L9 34 DUPLICATE REMOVE L8 (28 DUPLICATES REMOVED)

=> d 19 1-10 ti

L9 ANSWER 1 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
TI Distinct regulation of sucrose: sucrose- ***1*** -
 fructosyltransferase (1-SST) and sucrose: fructan-6-
fructosyltransferase (6-SFT), the key enzymes of fructan synthesis in
barley leaves: 1-SST as the pacemaker

L9 ANSWER 2 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fructan production by transgenic beets expressing two different
fructosyltransferases

L9 ANSWER 3 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of wheat fructan-fructan ***1*** -
 fructosyltransferase and use of the enzyme for production of
fructan polymer

L9 ANSWER 4 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 1
TI Isolation and characterisation of a sucrose:sucrose ***1*** -
 fructosyltransferase gene from perennial ryegrass (*Lolium*
perenne).

L9 ANSWER 5 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 2
TI Properties of Fructan:fructan ***1*** - ***fructosyltransferases***
from chicory and globe thistle, two asteracean ***plants*** storing
greatly different types of inulin.

L9 ANSWER 6 OF 34 AGRICOLA Compiled and distributed by the National
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(2004) on STN DUPLICATE 3
TI Patterns of fructan synthesized by onion fructan : fructan
6G-fructosyltransferase expressed in tobacco BY2 cells--is fructan :
fructan ***1*** - ***fructosyltransferase*** needed in onion?

L9 ANSWER 7 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
TI ***plant*** transformation using enzymes and transport proteins
involved soluble carbohydrate metabolism

L9 ANSWER 8 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 4
TI Molecular characterization of sucrose:sucrose ***1*** -
fructosyltransferase and sucrose:fructan 6-fructosyltransferase
associated with fructan accumulation in winter wheat during cold
hardening.

L9 ANSWER 9 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
TI Sequence homologs of genes of ***plant*** fructan biosynthesis and
their use in altering ***plant*** fructan metabolism

L9 ANSWER 10 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Sugar-induced expression of wheat fructan synthesis genes and their
promoter response to sugar signaling.

=> d 19 5 ab ibib

L9 ANSWER 5 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 2
AB Remarkably, within the Asteraceae, a species-specific fructan pattern can
be observed. Some species such as artichoke (*Cynara scolymus*) and globe
thistle (*Echinops ritro*) store fructans with a considerably higher degree
of polymerization than the one observed in chicory (*Cichorium intybus*) and
Jerusalem artichoke (*Helianthus tuberosus*). Fructan:fructan ***1*** -
fructosyltransferase (1-FFT) is the enzyme responsible for chain
elongation of inulin-type fructans. 1-FFTs were purified from chicory and
globe thistle. A comparison revealed that chicory 1-FFT has a high
affinity for sucrose (Suc), fructose (Fru), and 1-kestose as acceptor
substrate. This makes redistribution of Fru moieties from large to small
fructans very likely during the period of active fructan synthesis in the
root when import and concentration of Suc can be expected to be high. In
globe thistle, this problem is avoided by the very low affinity of 1-FFT
for Suc, Fru, and 1-kestose and the higher affinity for inulin as acceptor
substrate. Therefore, the 1-kestose formed by Suc:Suc ***1*** -
fructosyltransferase is preferentially used for elongation of
inulin molecules, explaining why inulins with a much higher degree of
polymerization accumulate in roots of globe thistle. Inulin patterns
obtained in vitro from 1-kestose and the purified 1-FFTs from both species
closely resemble the in vivo inulin patterns. Therefore, we conclude that
the species-specific fructan pattern within the Asteraceae can be
explained by the different characteristics of their respective 1-FFTs.
Although 1-FFT and bacterial levansucrases clearly differ in their ability
to use Suc as a donor substrate, a kinetic analysis suggests that 1-FFT
also works via a ping-pong mechanism.

ACCESSION NUMBER: 2003:504562 BIOSIS
DOCUMENT NUMBER: PREV200300507339
TITLE: Properties of Fructan:fructan ***1*** -

fructosyltransferases from chicory and globe thistle, two asteracean ***plants*** storing greatly different types of inulin.

AUTHOR(S): Vergauwen, Rudy; Van Laere, Andre; Van den Ende, Wim
[Reprint Author]

CORPORATE SOURCE: Laboratory for Developmental Biology, K.U. Leuven, 3001, Leuven, Belgium
wim.vandenende@bio.kuleuven.ac.be

SOURCE: Plant Physiology (Rockville), (September 2003) Vol. 133, No. 1, pp. 391-401. print.
ISSN: 0032-0889 (ISSN print).

DOCUMENT TYPE: Article

LANGUAGE: English

ENTRY DATE: Entered STN: 29 Oct 2003
Last Updated on STN: 29 Oct 2003

=> d 19 9 ibib ab

L9 ANSWER 9 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:923537 CAPLUS
DOCUMENT NUMBER: 136:51259
TITLE: Sequence homologs of genes of ***plant*** fructan biosynthesis and their use in altering ***plant*** fructan metabolism
INVENTOR(S): Spangenberg, German Carlos; Lidgett, Angela Jane; Johnson, Xenie Angela
PATENT ASSIGNEE(S): State of Victoria as Represented by Department of Natural Resources and Environment, Australia; The University of Adelaide; International Maize and Wheat Improvement Center; State of South Australia as Represented by South Australian Research and Development Institute; Southern Cross University
SOURCE: PCT Int. Appl., 139 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001095691	A2	20011220	WO 2001-AU705	20010614
WO 2001095691	A3	20020314		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 2001065676	A5	20011224	AU 2001-65676	20010614
EP 1305420	A2	20030502	EP 2001-942880	20010614
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			

PRIORITY APPLN. INFO.:

AU 2000-8155

A 20000614

WO 2001-AU705

W 20010614

AB The present invention relates to the modification of fructan biosynthesis in ***plants*** and, more particularly, to enzymes involved in the fructan biosynthetic pathway and nucleic acids encoding such enzymes. The present invention also relates to regulatory elements and, more particularly, to promoters capable of causing expression of an exogenous gene in ***plant*** cells, such promoters being from a gene encoding an enzyme involved in the fructan biosynthetic pathway in ***plants***. The invention also relates to vectors including the nucleic acids and regulatory elements of the invention, ***plant*** cells, ***plants***, seeds and other ***plant*** parts transformed with

the

regulatory elements, nucleic acids and vectors, and methods of using the nucleic acids, regulatory elements and vectors. CDNAs for sucrose:fructan 6-fructosyltransferase, fructan:fructan ***1*** -

fructosyltransferase, and sucrose:sucrose ***1*** -

fructosyltransferase were identified in libraries by probing with sequences from the corresponding barley genes. Expression of the cDNAs in *Pichia pastoris* resulted in the appearance of the fructosyltransferase activities. Reporter gene anal. of the function of the promoter of the sucrose:fructan 6-fructosyltransferase gene indicated that expression was limited to the leaf base and vascular tissue. Expression of the gene in tobacco resulted in the appearance of kestose in tissue exts. Detection of the mRNA and the protein in ***plant*** exts. was also demonstrated.

=> d 19 1-2

L9 ANSWER 1 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:193235 CAPLUS

TI Distinct regulation of sucrose: sucrose- ***1*** -

fructosyltransferase (1-SST) and sucrose: fructan-6-fructosyltransferase (6-SFT), the key enzymes of fructan synthesis in barley leaves: 1-SST as the pacemaker

AU Nagaraj, Vinay J.; Altenbach, Denise; Galati, Virginie; Luescher, Marcel; Meyer, Alain D.; Boller, Thomas; Wiemken, Andres

CS Zurich-Basel Plant Science Center, Botanisches Institut der Universitaet Basel, Basel, CH-4056, Switz.

SO New Phytologist (2004), 161(3), 735-748

CODEN: NEPHAV; ISSN: 0028-646X

PB Blackwell Publishing Ltd.

DT Journal

LA English

RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:6097 CAPLUS

DN 138:50882

TI Fructan production by transgenic beets expressing two different fructosyltransferases

IN Weynes, Guy; Lathouwers, Jean; Van Dun, Kees

PA Ses Europe N.V./S.A., Belg.; Advanta USA, Inc.

SO PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003000854	A2	20030103	WO 2002-US19860	20020625
	WO 2003000854	A3	20040304		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	US 2004064852	A1	20040401	US 2003-415686	20030922
PRAI	US 2001-300741P	P	20010625		
	WO 2002-US19860	W	20020625		

=> d 19 11-20 ti

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DUPLICATE 5

TI Transgenic potato (*Solanum tuberosum*) tubers synthesize the full spectrum of inulin molecules naturally occurring in globe artichoke (*Cynara scolymus*) roots.

L9 ANSWER 12 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 6

TI Cloning and functional analysis of sucrose:sucrose ***1*** - ***fructosyltransferase*** from tall fescue.

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DUPLICATE 7

TI Drought induces fructan synthesis and 1-SST (sucrose: sucrose fructosyltransferase) in roots and leaves of chicory seedlings (*Cichorium intybus* L.).

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DUPLICATE 8

TI Fructan accumulation induced by nitrogen deficiency in barley leaves correlates with the level of sucrose:fructan 6-fructosyltransferase mRNA.

L9 ANSWER 15 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 9

TI Disaccharide-mediated regulation of sucrose:fructan-6-fructosyltransferase, a key enzyme of fructan synthesis in barley leaves.

L9 ANSWER 16 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 10

TI Isolation of sucrose: Sucrose ***1*** - ***fructosyltransferase***
(1-SST) from barley (*Hordeum vulgare*).

L9 ANSWER 17 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI The fermentative synthesis and hydrolysis of fructans.

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DUPLICATE 11

TI Cloning of sucrose:sucrose ***1*** - ***fructosyltransferase*** from
onion and synthesis of structurally defined fructan molecules from
sucrose.

L9 ANSWER 19 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Production of 1-kestose in transgenic yeast expressing a
fructosyltransferase from *Aspergillus foetidus*.

L9 ANSWER 20 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 12

TI Differences in chain length distribution of inulin from *Cynara scolymus*
and *Helianthus tuberosus* are reflected in a transient ***plant***
expression system using the respective 1-FFT cDNAs.

=> d 19 11-12 ibib ab

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DUPLICATE 5

ACCESSION NUMBER: 2001:13428 AGRICOLA
DOCUMENT NUMBER: IND22089600
TITLE: Transgenic potato (*Solanum tuberosum*) tubers
synthesize the full spectrum of inulin molecules
naturally occurring in globe artichoke (*Cynara*
scolymus) roots.
AUTHOR(S): Hellwege, E.M.; Czapla, S.; Jahnke, A.; Willmitzer,
L.; Heyer, A.G.
AVAILABILITY: DNAL (500 N21P)
SOURCE: Proceedings of the National Academy of Sciences of the
United States of America, July 18, 2000. Vol. 97, No.
15. p. 8699-8704
Publisher: Washington, D.C. : National Academy of
Sciences,
CODEN: PNASA6; ISSN: 0027-8424
NOTE: Includes references
PUB. COUNTRY: District of Columbia; United States
DOCUMENT TYPE: Article; Conference
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension
LANGUAGE: English

L9 ANSWER 12 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 6

ACCESSION NUMBER: 2001:60964 BIOSIS

DOCUMENT NUMBER: PREV200100060964
TITLE: Cloning and functional analysis of sucrose:sucrose
 1 - ***fructosyltransferase*** from tall fescue.
AUTHOR(S): Luscher, Marcel; Hochstrasser, Urs; Vogel, Guido;
 Aeschbacher, Roger; Galati, Virginie; Nelson, Curtis J.;
 Boller, Thomas; Wiemken, Andres [Reprint author]
CORPORATE SOURCE: Botanisches Institut, University of Basel, Hebelstrasse 1,
 CH-4056, Basel, Switzerland
 andres.wiemken@unibas.ch
SOURCE: Plant Physiology (Rockville), (November, 2000) Vol. 124,
 No. 3, pp. 1217-1227. print.
 CODEN: PLPHAY. ISSN: 0032-0889.

DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 31 Jan 2001
 Last Updated on STN: 12 Feb 2002

AB Enzymes of grasses involved in fructan synthesis are of interest since they play a major role in assimilate partitioning and allocation, for instance in the leaf growth zone. Several fructosyltransferases from tall fescue (*Festuca arundinacea*) have previously been purified (Luscher and Nelson, 1995). It is surprising that all of these enzyme preparations appeared to act both as sucrose (Suc):Suc 1-fructosyl transferases (1-SST) and as fructan:fructan 6G-fructosyl transferases. Here we report the cloning of a cDNA corresponding to the predominant protein in one of the fructosyl transferase preparations, its transient expression in tobacco protoplasts, and its functional analysis in the methylotrophic yeast, *Pichia pastoris*. When the cDNA was transiently expressed in tobacco protoplasts, the corresponding enzyme preparations produced 1-kestose from Suc, showing that the cDNA encodes a 1-SST. When the cDNA was expressed in *P. pastoris*, the recombinant protein had all the properties of known 1-SSTs, namely 1-kestose production, moderate nystose production, lack of 6-kestose production, and fructan exohydrolase activity with 1-kestose as the substrate. The physical properties were similar to those of the previously purified enzyme, except for its apparent lack of fructan:fructan 6G-fructosyl transferase activity. The expression pattern of the corresponding mRNA was studied in different zones of the growing leaves, and it was shown that transcript levels matched the 1-SST activity and fructan content.

=> d 19 21-34 ti

L9 ANSWER 21 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
TI Sugar-transferring enzyme recombinant expression, polysaccharide
modification in vitro and in transgenic ***plant***, and uses in food
and non-food industry

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(2004) on STN DUPLICATE 13

TI Transgenic potato tubers accumulate high levels of 1-kestose and nystose:
functional identification of a sucrose sucrose ***1*** -
 fructosyltransferase of artichoke (*Cynara scolymus*) blossom
discs.

L9 ANSWER 23 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

DUPLICATE 14
TI Effects of short-term phosphorus deficiency on carbohydrate storage in sink and source leaves of barley (*Hordeum vulgare*).
L9 ANSWER 24 OF 34 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved.
(2004) on STN DUPLICATE 15
TI Fructan and fructan-metabolizing enzymes in the growth zone of barley leaves.
L9 ANSWER 25 OF 34 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved.
(2004) on STN DUPLICATE 16
TI Purification and characterization of the enzymes of fructan biosynthesis in tubers of *Helianthus tuberosus* Colombia. II. Purification of sucrose:sucrose ***1*** - ***fructosyltransferase*** and reconstitution of fructan synthesis in vitro with purified sucrose:sucrose ***1*** - ***fructosyltransferase*** and fructan:fructan ***1*** - ***fructosyltransferase*** .
L9 ANSWER 26 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
TI De-novo synthesis of fructans from sucrose in vitro by a combination of two purified enzymes (sucrose:sucrose 1-fructosyl transferase and fructan:fructan 1-fructosyl transferase) from chicory roots (*Cichorium intybus*)
L9 ANSWER 27 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Inulin synthesis with purified fructosyl-transferases (SST and FFT) from Jerusalem artichoke tubers (*Helianthus tuberosus* L.).
L9 ANSWER 28 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 17
TI Inulin synthesis by a combination of purified fructosyltransferases from tubers of *Helianthus tuberosus*.
L9 ANSWER 29 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Fructan synthesis in excised barley leaves: Identification of two sucrose-sucrose fructosyltransferases induced by light and their separation from constitutive invertases.
L9 ANSWER 30 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI THE DETECTION OF ISOKESTOSE AND NEOKESTOSE IN ***PLANT*** EXTRACTS BY CARBON-13-NMR SPECTROSCOPY.
L9 ANSWER 31 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 18
TI FRUCTOSYLYLTRANSFERASE AND INVERTASE ACTIVITIES IN LEAF EXTRACTS OF SIX TEMPERATURE GRASSES GROWN IN WARM AND COOL TEMPERATURES.
L9 ANSWER 32 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI PURIFICATION AND CHARACTERIZATION OF 1F FRUCTOSYL TRANSFERASE FROM THE ROOTS OF ASPARAGUS ASPARAGUS-OFFICINALIS.
L9 ANSWER 33 OF 34 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI PURIFICATION AND CHARACTERIZATION OF SUCROSE SUCROSE 1 FRUCTOSYLYL

TRANSFERASE FROM THE ROOTS OF ASPARAGUS ASPARAGUS-OFFICINALIS.

L9 ANSWER 34 OF 34 CAPLUS COPYRIGHT 2004 ACS on STN
TI Sucrose fructosyltransferase from higher ***plant*** tissues

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---Logging off of STN---

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Executing the logoff script...

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